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Mature Teratoma and Pregnancy: Case Report

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Summary

The mature teratoma or dermoid cyst of the ovary is a benign tumor with a good prognosis which constitutes less than 1% of ovarian tumors. Its association with pregnancy is rare. We report the case of a 30-year-old woman admitted for management of an abdominopelvic mass for which she underwent an ultrasound supplemented by a pelvic MRI followed by conservative treatment based on an adnexectomy with multiple biopsies, the anatomopathological result of which was in favor of a mature ovarian teratoma. Through the analysis of this observation and the data of the literature, we will discuss the different aspects of this association.

Keywords: Mature Teratoma, Pregnancy, Radiological Examinations, Pathology, Treatment

Introduction

Mature cystic teratoma is the most common ovarian teratoma. It is in most cases asymptomatic unless it becomes more complicated or increases in volume. Its diagnosis is generally confused with other differential diagnoses on the clinical and paraclinical level **[1]**. The diagnosis is usually suggested by ultrasound and confirmed by CT scan or MRI in the presence of an ovarian mass containing fat. Histology holds the greatest importance in the diagnosis of certainty of mature teratoma. The treatment is exclusively surgical with different methods. Fertility preservation remains the main concern in treatment **[2]**. Its discovery during pregnancy is an even rarer fact. Few cases have been reported in the literature.

Observation

Mrs L.A, 30 years old, IG0P, with no particular pathological history, consulted for an abdomino-pelvic mass discovered 2 months ago, gradually increasing in volume, associated with chronic pelvic pain of the heaviness type, in a pregnancy estimated at 4 months. The general examination found a parturient in good general condition with, on gynecological examination, an abdominopelvic mass arriving at the umbilicus. Pelvic ultrasound revealed a large homogeneous hyperechoic abdomino-pelvic mass of 15x15 cm in an evolving singlefetal pregnancy of 16 weeks **(Figure 1)**. Tumor markers were negative. The pelvic MRI confirmed the presence of an abdominopelvic mass partitioned under the umbilical, well encapsulated, 16 cm in long axis, of probable ovarian origin with three components, tissue, fatty and calcium, evoking a germ cell tumor of the immature teratoma type **(Figure 2)**.

The parturient benefited a laparotomy with exploration

(Figure 3).

Fallopian tubes appear normal, left ovary and gravid uterus normal. The right ovary is tumoral in appearance, measuring approximately 20 cm in long axis, non-adherent, with a smooth surface, without exophytic vegetation. No ascites or tumor peritoneal implants. A right adnexectomy with several biopsies was performed as well as a sample of lavage fluid. The anatomo-pathological result was in favor of a mature and multi-tissue ovarian teratoma with no immature component **(Figure 4)**.

Figure 1: Bulky homogeneous hyperechoic abdomino-pelvic mass of 15x15 cm on evolving single pregnancy of 16 weeks

Figure 2: Abdominopelvic mass below the umbilical, well encapsulated with a long axis of 16 cm of probable compartmentalized ovarian origin with three components, tissue, fat and calcium, evoking a germ cell tumor of the immature teratoma type.

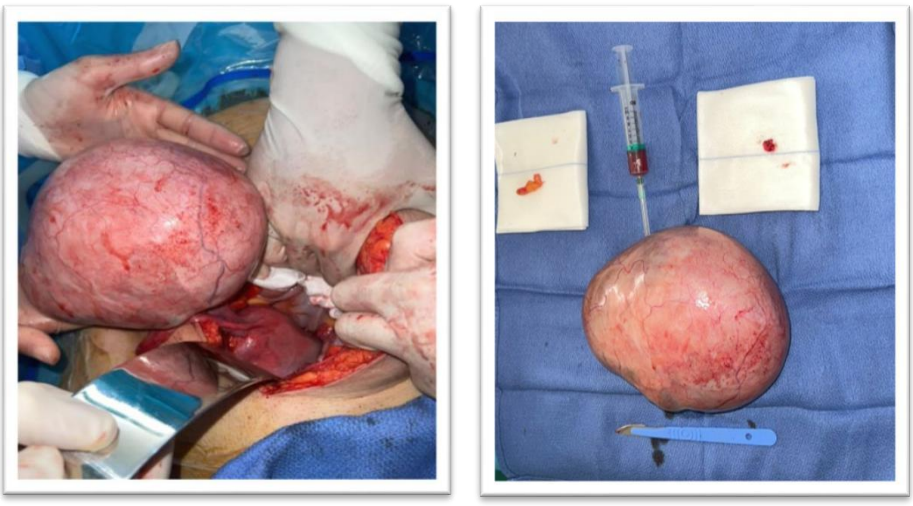

Figure 3: Right adnexectomy specimen with multiple biopsies

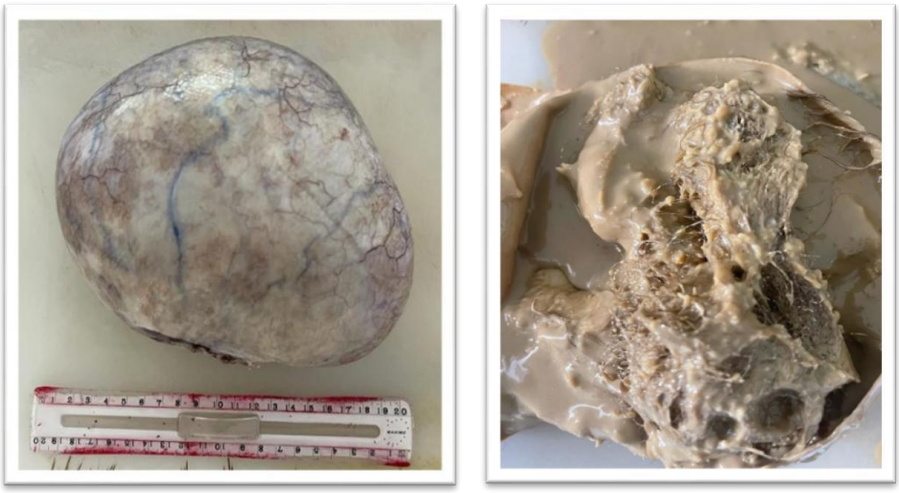

Figure 4: Macroscopic appearance of a mature multi-tissue teratoma

Discussion

The frequency of ovarian tumors discovered during pregnancy is between 0.3 and 5.4%. The most common benign organic ovarian tumors during pregnancy are dermoid cysts and cystadenomas **[3]**. It had been speculated that hormonal changes due to pregnancy may be responsible for an increase in the size of dermoid cysts. In a prospective series, Caspi et al.

followed 49 young women with a known dermoid cyst of less than 6 cm. In the 68 pregnancies that occurred, the size of the cysts remained stable throughout the pregnancy **[4]**.

The main risk of complication of dermoid cysts during pregnancy is adnexal torsion, estimated at around 8%, especially in the 1st trimester and at the beginning of the 2nd trimester. There were no noted cases of malignant degeneration of dermoid cysts in the two follow-up series by Caspi et al. and Caruso et al. during pregnancy **[4]**. Tumor markers are not reliable during pregnancy to assess the risk of malignancy. Ultrasound remains the reference examination for characterizing an ovarian tumor during pregnancy. Its specificity is lower for the diagnosis of malignancy than outside of pregnancy. Pelvic MRI is a powerful examination in the diagnosis of ovarian tumors during pregnancy and provides additional information to ultrasound **[5]**. Laparoscopy is the gold standard in the management of this pathology. Cystectomy presents the best choice to preserve the ovarian parenchyma as much as possible. Ovariectomy or adnexectomy may be necessary if the lesion involves the entire ovary and no recognizable parenchyma remains **[6]**.

In the 1st trimester, surgery is recommended in case of symptomatic ovarian tumor raising suspicion of adnexal torsion **[7]**. In other cases, an ultrasound check will be carried out at the beginning of the 2nd trimester to ensure that it persists. In the case of a benign-looking ovarian tumor that does not increase in size, persists for less than 6 cm, the risk of complication is low and expectation is recommended. In the case of a presumed benign ovarian tumor larger than 6 cm, the data in the literature are insufficient to conclude between expectation and intervention **[8]**. An increase in the size of the tumor would be an element prompting an intervention. In the event of a surgical decision, the risk of miscarriage is evaluated at 2.8% and must be clearly explained to the patient. Subsequently and regardless of the trimester of pregnancy, the discovery of a presumed benign symptomatic ovarian tumor, raising fears of adnexal torsion, remains an indication for surgery. It is noted that after 20 GW the risks of torsion are rare, and that after 23 GW, the risks of obstetric complications (premature delivery) from surgery are higher. These data encourage postponing surgery after delivery in the event of a presumed benign asymptomatic ovarian tumor after 20–23 GW **[9]**.

Histology is essential for confirming the diagnosis of mature teratoma and for looking for signs of malignant degeneration. The prognosis is excellent, subsequent regular ultrasound monitoring, theoretically throughout the period of genital activity, should be considered **[10]**.

Conclusion

Mature teratoma is a benign tumor with a good prognosis. Diagnosis is suspected by radiological examinations and confirmed by pathology. Its management should be directed as often as possible towards conservative surgical treatment with preservation of fertility, its association with pregnancy is still a rare entity. Expectancy is recommended in the case of persistent but stable presumed benign ovarian tumors of less than 6 cm, surgery and rule if the mass is increased in size or if the patient is symptomatic.

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